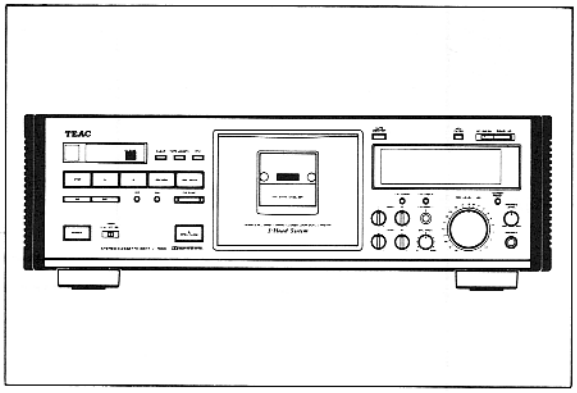
TEAC®

5700126000

V-7000/V-5000

Stereo Cassette Deck



OWNER'S MANUAL

Thanks for buying a TEAC. Read this manual carefully to get the best performance from this unit.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.
Model number _____
Serial number _____

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

PRINTED IN JAPAN 0591U2·M-0411B

SAFETY INSTRUCTIONS

CAUTION:

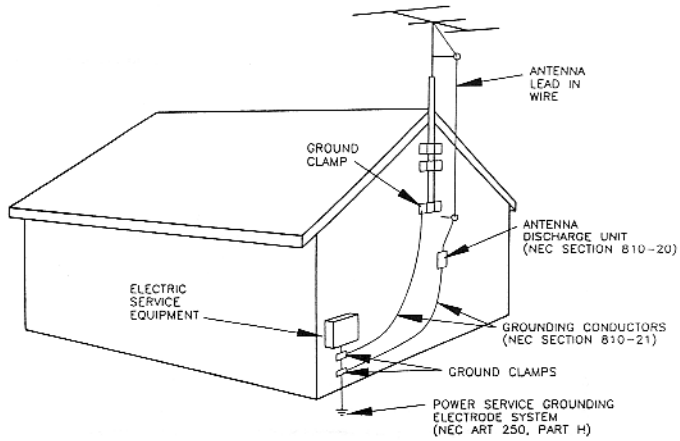
- **Read all of these instructions.**
- **Save these instructions for later use.**
- **Follow all warnings and instructions marked on the audio equipment.**

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Grounding or Polarization** – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer.
14. **Power Lines** – An outdoor antenna should be located away from power lines.
15. **Outdoor Antenna Grounding** – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 – 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure below.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE

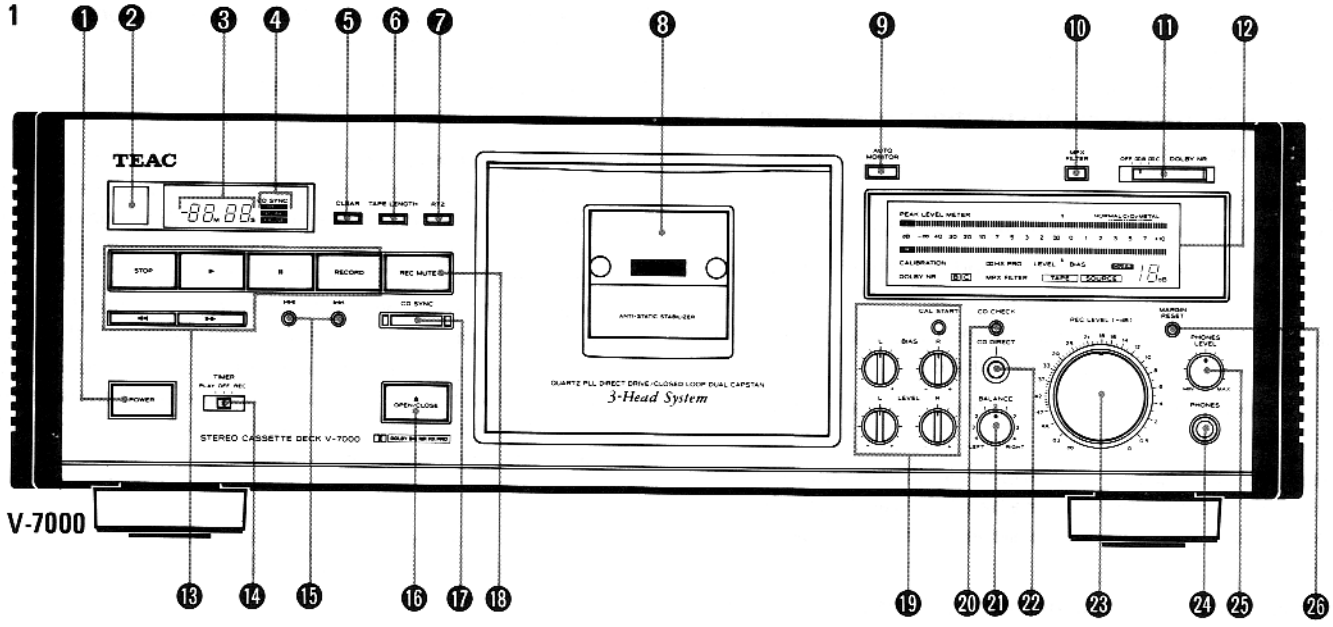

ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

NEC – NATIONAL ELECTRICAL CODE

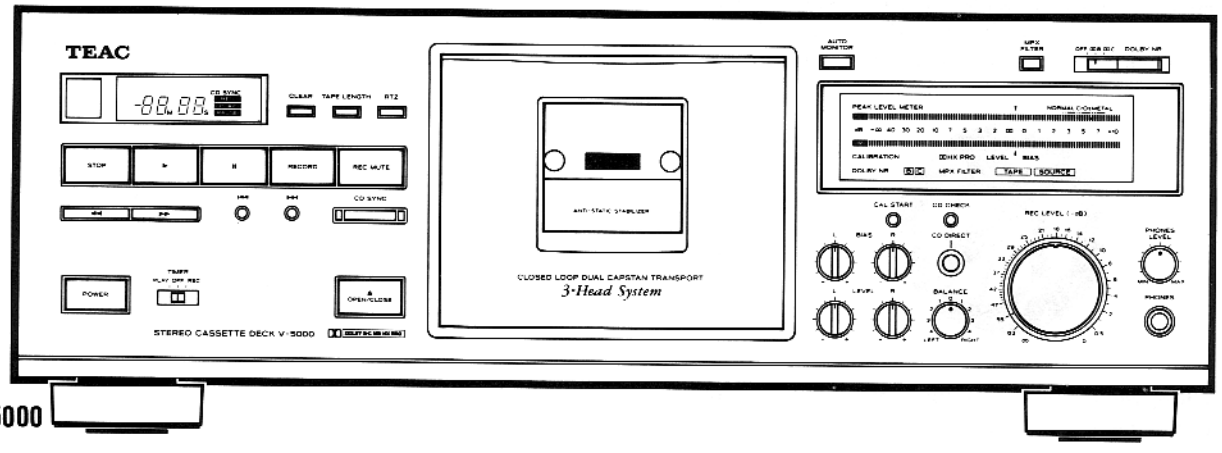
16. **Nonuse Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
17. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
18. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
19. **Servicing** – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Reference Illustrations

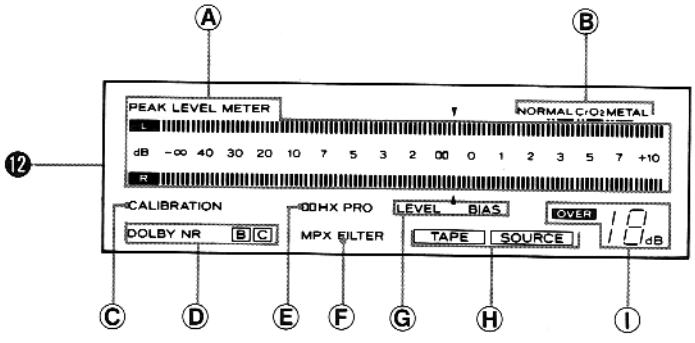
Fig. 1

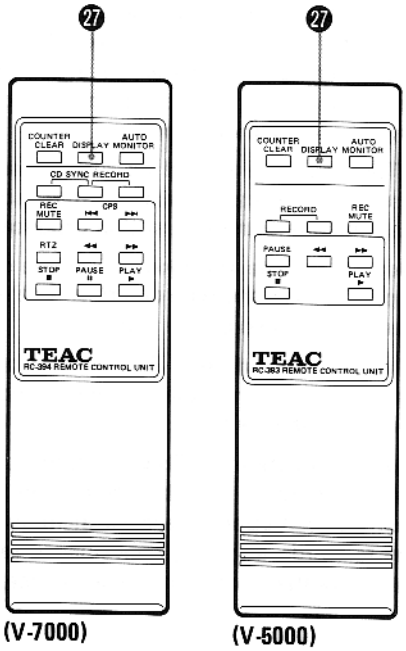


V-7000



V-5000

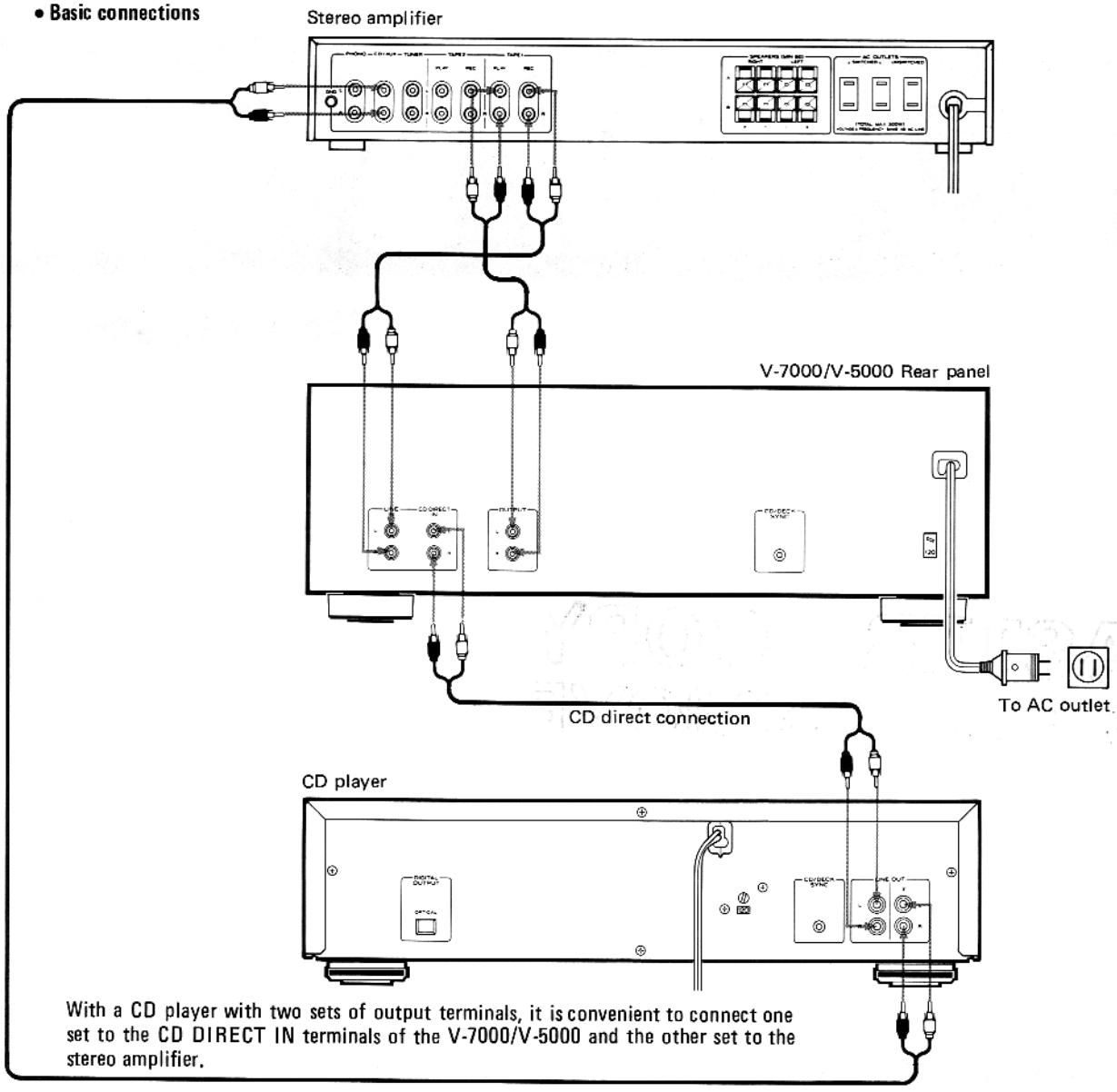




(V-7000) (V-5000)

*The buttons not numbered here function in the same way as those with the same names or markings on the front panel.

Fig. 2 • **Basic connections**



With a CD player with two sets of output terminals, it is convenient to connect one set to the CD DIRECT IN terminals of the V-7000/V-5000 and the other set to the stereo amplifier.

• **Connection of the synchro cable and pin plug cord**

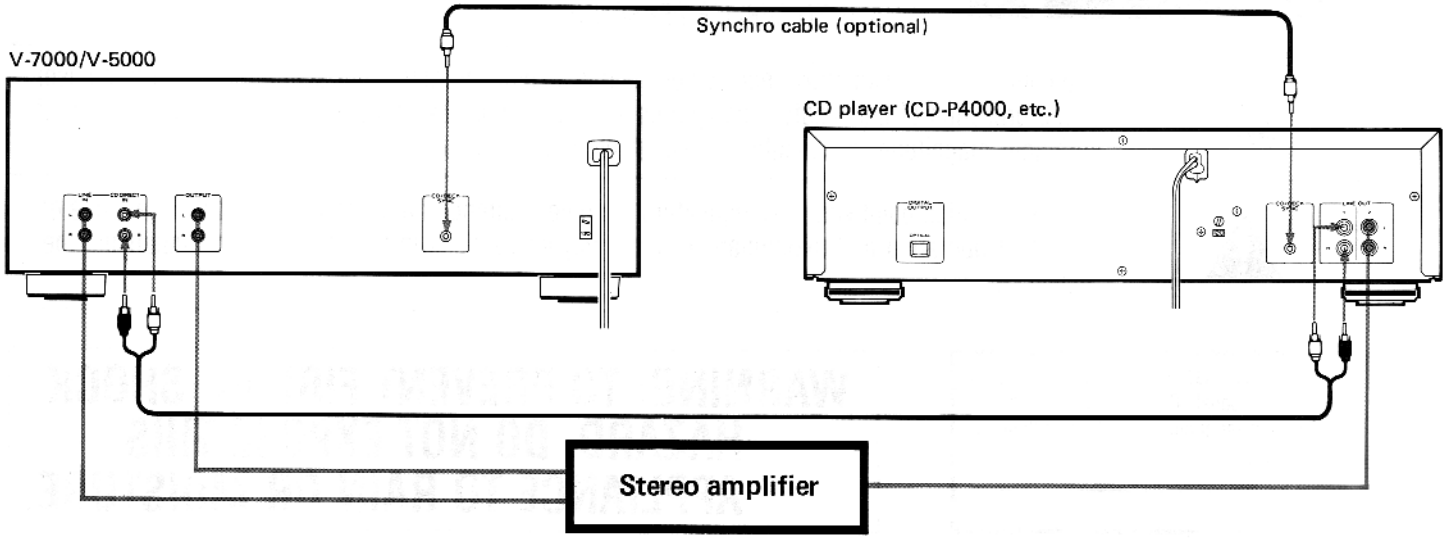
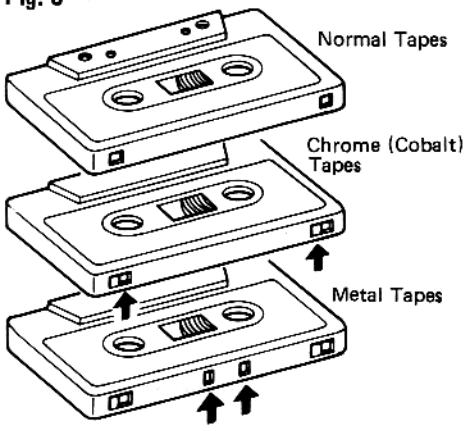


Fig. 3



• Tape position identification holes

Fig. 4

Battery Placement

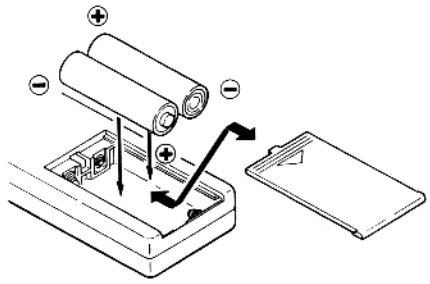


Fig. 5

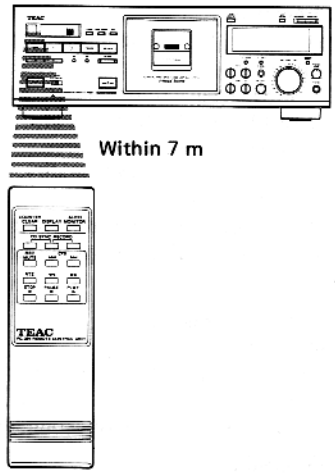


Fig. 6

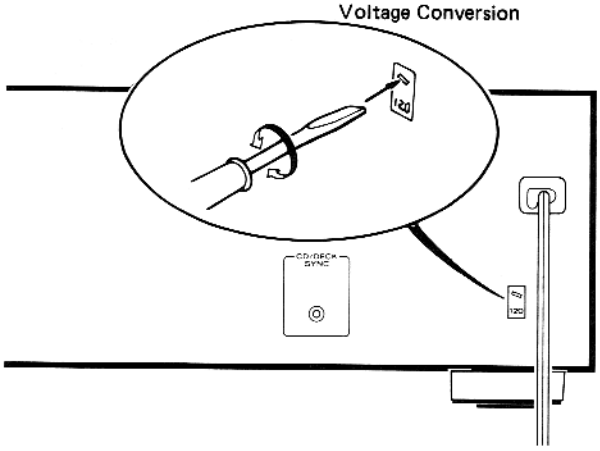


Fig. 7

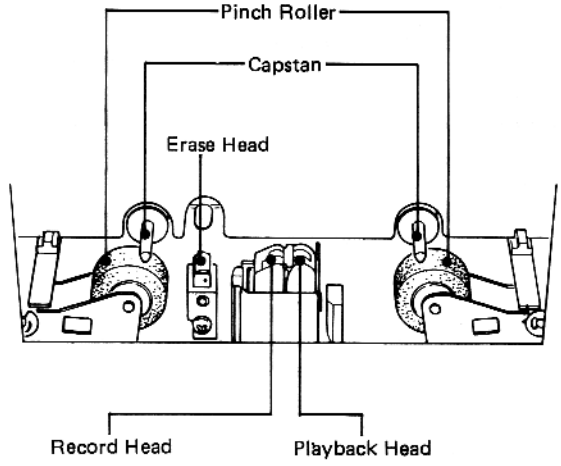
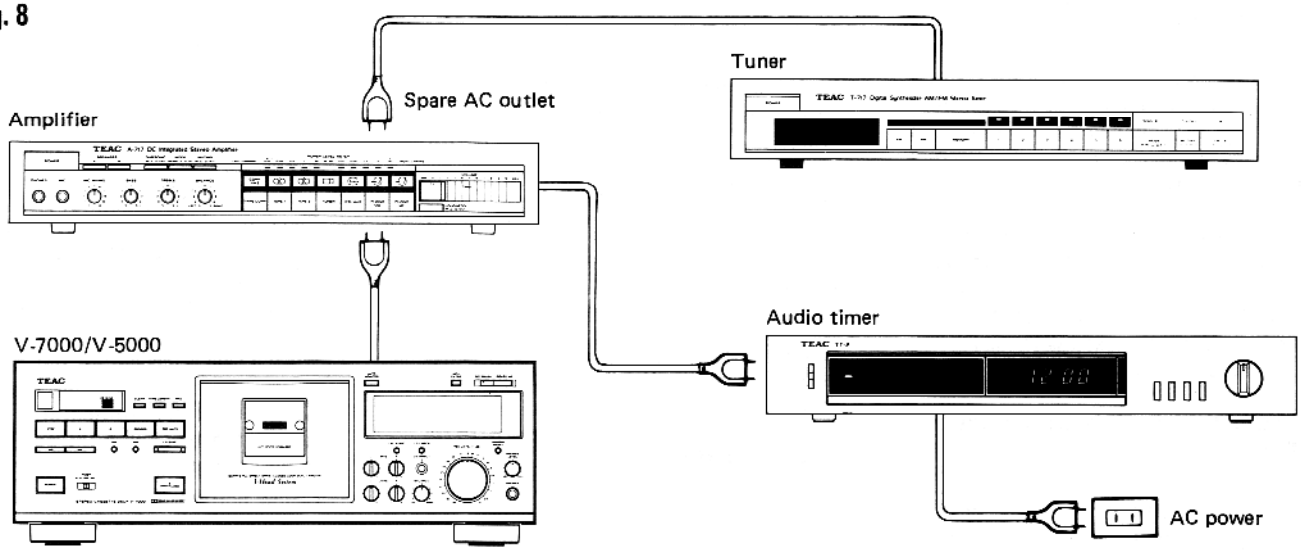


Fig. 8



Precautions

Environment
Avoid using the deck in the following conditions:
- At high temperatures (near a heater, exposed to direct sunlight, etc.).
- At extremely low temperatures.
- Where there is excessive humidity.
- In a dusty atmosphere.
- Where power line voltage fluctuations are severe (the use of a voltage regulator may be advisable).

Cassette Tape (Fig. 3)
Tape Selection:
For the automatic tape select function to work properly, metal and chrome (cobalt) tapes must have tape identification holes.

Tape Handling:
Do not store tapes in the following places:
- On top of heaters, exposed to direct sunlight or in any other places with high temperatures.
- Near speakers, on TV sets or amplifiers, or where they would be exposed to strong magnetic fields.
- Where humidity is high and in dirty, dusty places.

Avoid dropping or subjecting cassettes to excessive shocks.

Voltage Conversion (For general export models) (Fig. 6)
If it is necessary to change the voltage selector of the deck to be suitable for your area, use the following procedure:
1. DISCONNECT THE POWER LINE CORD.
2. Using a screwdriver, turn the selector until the required voltage marking appears.

IMPORTANT (for U.K. Customers)

The wires in this mains lead are coloured in accordance with the following code:

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

In the U.K, this unit is sold without an AC plug.

THE APPLIANCE CONFORMS WITH EEC DIRECTIVE 87/308/EEC REGARDING INTERFERENCE SUPPRESSION

* Dolby noise reduction and HX PRO headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX PRO originated by Bang and Olufsen. "Dolby", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Connections (Fig. 2)

- Turn off the power of all equipment before making connections.
- Read the instructions of each component you intend to use with the deck.

Features and Controls (Fig. 1)

Front Panel

❶ POWER Switch
Press to switch the deck on. The display window will be illuminated. Press again to turn the deck off.
Note: When switching the power on again after switching it off, be sure to wait for more than 3 seconds.

❷ REMOTE SENSOR (Remote Control Infrared Signal Receptor)
This receives signals from the provided RC-394 (V-7000)/RC-393 (V-5000) infrared remote control unit.

❸ Linear Counter
Indicates recording and playback time in minute and second.

❹ Mode Indicator
CD SYNC: Lights when CD synchro start is activated.
REC: Lights in the recording mode and flickers during record-muting.
PLAY: Lights during playback and recording.
PAUSE: Lights when the tape is stopped temporarily.

❺ CLEAR Button
Pressing the CLEAR button resets the linear counter to zero (0000). Press this button before starting recording or playback.

❻ TAPE LENGTH Button
Set this to minimize the error in the counter reading. See page 7.

❼ RTZ Button
If this button is pressed, the tape is fast-forwarded or rewound until a counter reading of 00M00S is reached, then the deck stops. See page 9.

❽ Cassette Holder
Load the cassette here.

❾ AUTO MONITOR Button
To change the monitor mode between source and tape, press this button. The monitor mode is automatically selected in accordance with the tape operation.

❿ MPX FILTER Button
Press this button when making a recording of an FM broadcast using Dolby NR; the indicator lights. This eliminates the pilot tone (19 kHz) and sub carrier tone (38 kHz) of the FM broadcast which could affect operation of the Dolby noise reduction system. To release this function, press the MPX FILTER button again.

⓫ DOLBY NR Selector
OFF: Set to this position when you do not want to use any noise reduction system.
□□B: Set to this position when making a recording using the Dolby B noise reduction system, or playing back tapes recorded with Dolby B NR.
□□C: Set to this position when making a recording using the Dolby C noise reduction system, or playing back tapes recorded with Dolby C NR.

⓬ Multi-Display Window

Ⓐ PEAK LEVEL METER
This meter shows the peak level of the input or playback signal. The meter has a peak hold feature; when the level exceeds –7 dB, the peak level is held for approx. 2 seconds.

Ⓑ Tape Type Indicator
Tape type indicator above the meter indicates the type of tape being used. The V-7000/V-5000 has an auto tape selector function, with which the NORMAL, CrO_2 or METAL indicator lights when a tape is loaded.

Ⓒ CALIBRATION Indicator
Lights together with "LEVEL/BIAS" in the calibration mode.

Ⓓ DOLBY NR B C
Indicator: Lights when the DOLBY NR selector is set to the DD B or DD C position.

Ⓔ DD HX PRO: The Dolby HX Pro indicator lights during the recording mode, indicating that the Dolby HX Pro circuit in the deck is operating. This is engaged automatically whenever the deck is used for recording.

Ⓕ MPX FILTER Indicator
Lights when the multiplex filter has been activated.

Ⓖ LEVEL/BIAS Indicator
Indicates the level (sensitivity) and bias when calibration is performed.

Ⓗ TAPE/SOURCE Indicator
Indicates whether the deck is set for tape or source monitoring.

Ⓘ Level Indicator (V-7000 only)
The level shown by the PEAK LEVEL METER is indicated numerically from 0 to 12 dB. When the level reaches 13 dB or more, the OVER indicator comes on and the level 12 dB stays lit until the power is switched off or the MARGIN RESET button is pressed.

⓭ Tape Travel Operation Buttons
- **STOP Button**
  Press to stop tape travel and release the current operation mode.
- **Play Button (►)**
  Pressing this button causes the tape to run at normal speed. This button is also used to release the pause mode.
- **Pause Button (II)**
  Press to temporarily stop tape travel during recording or playback. In the pause mode, the PAUSE indicator lights. To release the pause mode, press this button again or press the ► button to restart the tape (the indicator goes out).
- **RECORD Button**
  If the RECORD button is pressed, the deck enters the rec/pause mode. The REC and PAUSE indicators light. To start recording, press the ► or II button.
- **(◄◄) rewind Button**
  Press this button to rewind the tape at high speed.
- **(►►) Fast-forward Button**
  Press this button to advance the tape at high speed.

⓮ TIMER Switch
PLAY: For timer playback
OFF: Set to this position when not using a timer.
REC: For timer recording
(Refer to page 10.)

⓯ I◄◄ ►►I (CPS) Button
This button is used to activate the CPS (Computomatic Program Search) facility. For details, refer to page 9.

⓰ OPEN/CLOSE Button (≙)
Press this button to open or close the cassette holder. As this deck employs a power loading mechanism, opening and closing the cassette holder is possible only when the power is on. Even if the holder is open, it closes automatically and the corresponding operation is performed when the ► button, etc. is pressed. The cassette holder can also be closed manually.

⓱ CD SYNC Button
This button is pressed when CD synchro dubbing is performed. See page 10.

⓲ REC MUTE Button
Press this button during recording to leave a blank section between tunes (approx. 4 seconds). The deck will enter the record-pause mode. (See page 8.)

⓳ Calibration Level Controls
CAL START Button:
Press this button to start the calibration operation. For details, refer to "Calibration Procedure" on page 9.
BIAS Controls:
Used to adjust the bias current to obtain the optimum recording characteristics for the tape used.
LEVEL Controls:
Used to adjust the tape's recording sensitivity (level).

⓴ CD CHECK Button
Press this button when checking CD level. (See page 8.)

㉑ BALANCE Control
Adjust the balance of the input signals between the left and right channels to be recorded on tape.

㉒ CD DIRECT Button
If the CD DIRECT button is set to the on (⏛) position, the signals supplied from a CD player to the CD DIRECT IN connectors will have priority over the LINE IN signals, and will be recorded.

㉓ REC LEVEL (-dB) Control:
When recording, turn the REC LEVEL control clockwise to fade the input sound in and turn it counterclockwise to fade the sound out, for smooth tune-to-tune transitions.

㉔ PHONES Jack
Plug stereo headphones into this jack for private listening or monitoring.

㉕ PHONES LEVEL Control
Adjust the level of the signals output from the PHONES jack. This knob does not affect the level of the signals output from the OUTPUT jacks on the rear panel or the level indicated by the PEAK LEVEL METER.

㉖ MARGIN RESET (V-7000 only)
Press this button to release the peak hold memory.

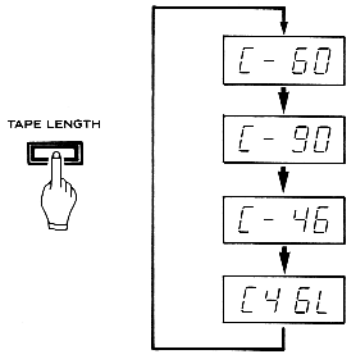
Remote Control Unit

㉗ DISPLAY Button
Press this button to switch off the multi-display and the linear counter indication (illumination).

Operations

Playback and Recording

TAPE LENGTH Button
The linear counter of this deck indicates the recording/playback time in minute and second. To minimize the error in the counter reading due to the difference in tape length (duration), **be sure to press the TAPE LENGTH button until the appropriate tape length appears.**
When the TAPE LENGTH button is pressed, the linear counter will indicate the tape length.



Indication	Cassette used
C-60	C-60/50, etc.
C-90	C-90/80, etc.
C-46	C-46/30/10, etc.
C46L	C-46 large hub

* Since the linear counter is not a clock, there is a discrepancy between the actual recording/playback time and counter reading.
* Once the power is switched off, "C-60" appears when the power is switched on again.

* After setting is complete, the tape length is indicated for approx. 5 seconds; after that, the counter indication is resumed.
* Set the tape length again after a cassette with a different length is loaded or the power is switched on.

Stereo Playback

1. Press the POWER switch to ON.
2. Press the OPEN/CLOSE (≙) button and load the required cassette.
3. Set the tape length. See above.
4. Select the required NR system.
5. Press the ► button to start playback.
6. Adjust the volume with the amplifier's control.
7. To end playback, press the STOP button.

Stereo Recording

Recording from a Stereo System:

1. Press the POWER switch to ON.
2. Press the OPEN/CLOSE (≙) button and load the cassette on which the recording is to be made.
3. Set the tape length. (See above.)
4. Select the NR system used in recording.
5. Press the MPX FILTER button as required.
6. Set the BIAS/LEVEL controls to their center click positions.
7. Select the input using the CD DIRECT select button. (See below.)
   Note: Since the audio signal is directly input to the CD DIRECT IN terminal, clearer sound can be recorded.
   When the CD DIRECT select button is set to ON (⏏), the signal is input via the CD DIRECT IN terminal whereas if it is set to OFF (⊓), the signals are input via the LINE IN terminals.
8. Play the source to be recorded.
9. Press the RECORD button. The REC and PAUSE indicators light.
10. Adjust the recording level.
    Using the REC LEVEL/BALANCE controls, adjust the recording level of each channel.
11. Press the ► or ❚❚ button to release the rec/pause mode and start recording.
12. To end recording, press the stop button.

Notes:

- As this deck has an auto tape selector mechanism, be sure to use cassettes with tape detection holes. If the cassette does not have a detection hole, the optimum results will not be obtained with chrome and metal tapes.
- As C-120 tapes are physically weak and could become entangled in the transport mechanism, do not use them.

CAUTION:
Recording pre-recorded tapes, records, or other published or broadcast material may infringe copyright laws. Check before recording.

Checking CD Level

This is only possible with certain CD players, including the TEAC CD-P4000.
When the CD CHECK button is pressed, the deck enters the monitor state (SOURCE), allowing you to adjust the recording level with the CD player in the "fast playback" mode.

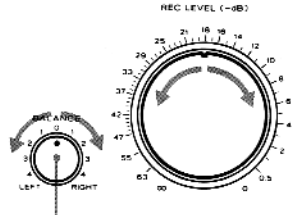
1. Set the deck to the STOP mode, then press the CD CHECK button. The linear counter will indicate "cdch".
2. Start the CD player and set to the fast playback mode.
3. During fast playback, adjust the recording level using the REC LEVEL control and BALANCE control.
4. To release the CD level check, press the STOP button.

* The checking of CD level is possible when this deck is in the stop mode.
* Recording level adjustment using CD level check is only possible when the CD player is in the fast play mode; do not perform this adjustment when the CD player is in the normal play mode.
* Some CD players do not output signals at the correct level in the fast play mode.

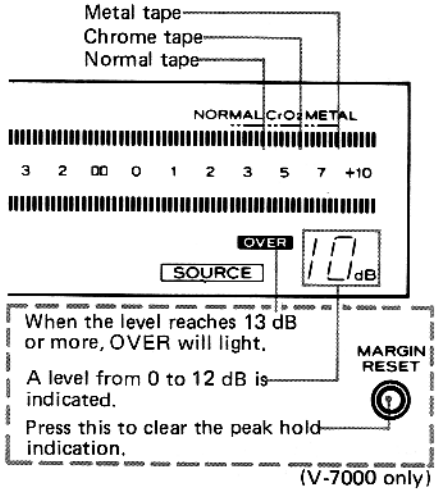
Adjusting Recording Level

By setting the recording level appropriately, it is possible to make best use of any tape's characteristics.
If the recording level is too low, hiss noise will be conspicuous in recording. Conversely, if it is too high, the recording will contain distorted sound.

1. Set the AUTO MONITOR button to SOURCE. In the recording or rec/pause mode, it is automatically set to SOURCE.
2. So that the peak in the source to be recorded indicates the specified level on the PEAK LEVEL METER, adjust using the REC LEVEL control and BALANCE control.



Turn to adjust the difference in level between the left and right channels.


Metal tape
Chrome tape
Normal tape
NORMAL CrO2 METAL
3 2 00 0 1 2 3 5 7 +10
OVER
SOURCE
dB
When the level reaches 13 dB or more, OVER will light.
A level from 0 to 12 dB is indicated.
Press this to clear the peak hold indication.
MARGIN RESET

(V-7000 only)

Record Muting Operation

The ability to leave blank unrecorded (erased) sections on a tape during recording is a real advantage in many recording situations. For instance, you may want to eliminate undesired portions of an FM broadcast that you are recording, such as commercials, station breaks or announcements. You may also want to record a complete program with controlled spacing between tunes. Such blank sections can easily be left using the REC MUTE function.

- **Automatic Spacing Operation – for a 4-second blank – (during recording)**
  Press the REC MUTE button during recording. The tape continues to run, and a blank of about 4 seconds is left (the REC indicator flashes).
  After 4 seconds, the deck automatically switches to the record-pause mode (both the REC and PAUSE indicators light). To start recording the next tune, press the ► or ❚❚ button (the PAUSE indicator goes off).
- **For a Blank of More Than 4 Seconds**
  During recording, keep the REC MUTE button pressed for a longer blank section. Release the button to enter the record-pause mode.
- **For a Blank of Less Than 4 Seconds**
  After pressing the REC MUTE button during recording, press the REC MUTE or PAUSE button before the 4-second interval has expired, to cancel the muting mode and engage the record-pause mode. To restart recording press the ❚❚ or ► button.

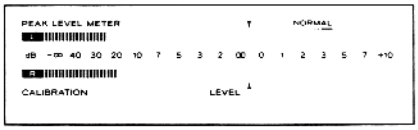
Erasing

Previously recorded tapes will be erased automatically when you make a new recording. Alternatively, tapes can be erased by "recording" on them with the REC LEVEL control set to "∞".

Calibration Procedure

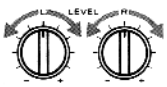
Each cassette tape has different characteristics depending on the manufacturer and type. By properly adjusting bias and level (sensitivity) according to the tape, it is possible to record making the most of the tape's characteristics.

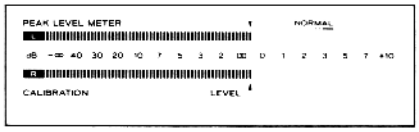
1. Load the cassette to be recorded.
2. Press the CAL START button.



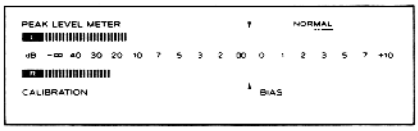
(CALIBRATION, LEVEL, ¦ light.)

3. Press the RECORD and ► buttons to start recording. The built-in test tone will be recorded.
4. Adjust the LEVEL controls (of both the L and R channels) so that the meter deflection comes to the ¦ mark.



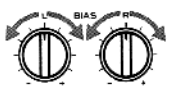


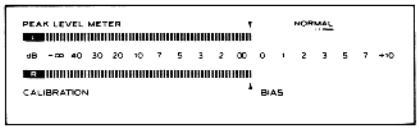
5. Press the CAL START button once again.



(LEVEL goes out and BIAS comes on.)

6. Adjust the BIAS controls (of both L and R channels) so that the meter deflection comes to the ¦ mark.





Now, the optimum bias and level (sensitivity) have been set.
Press the STOP button to end the calibration. Erase the recorded test tone or rewind the tape and record over it.

* Stick a seal, etc. on the front panel around the LEVEL and BIAS controls to facilitate setting the next time you make a recording with the same type of tape.

CPS (Computomatic Program Search) Function

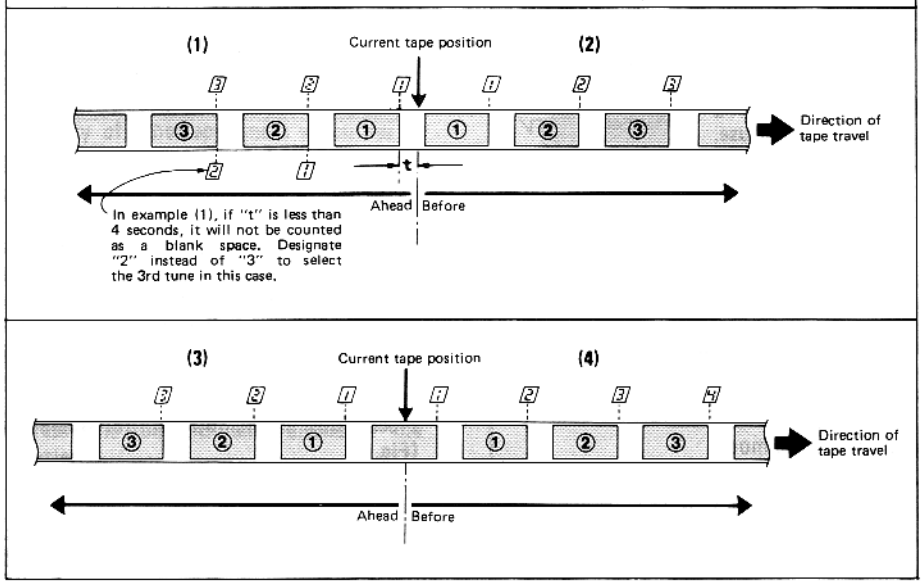
CPS allows the selection and playback of any tune up to 15 tunes ahead or before the one being played. This function operates by detecting blank spaces of at least 4 seconds between tunes. These blanks can be created using the REC MUTE facility.

1. Press the ⏮ or ⏭ button repeatedly until the number of tunes to be skipped appears in the multi-display counter. Refer to the chart "How to Select any Required Tune Using CPS".

- If you count past the required number, keep on pressing the CPS button as 1 appears after 15 is indicated.
- When the ⏭ button is pressed, the next tune is counted as "1" and when the ⏮ button is pressed, the current tune is counted as "1".

How to Select any Required Tune Using CPS

Ex: See (1). To select the 3rd tune past the current tape position, select "3".



2. As the tape is fast-forwarded or rewound and blank spaces between tunes are detected, the displayed number will be counted down until it reaches "1", at which point playback will start.

Notes on CPS

CPS operates by detecting and counting blanks of about 4 seconds, normally the intervals between tunes. Therefore, with the following types of tapes, search functions may not work correctly.

- When the intervals between tunes cannot be detected.
  - Intervals of less than 4 seconds.
  - High levels of noise in intervals (due to recording old scratched records, poor FM or AM reception, etc.).
  - Separate sounds are recorded on the right and left channels as on a language-learning tape, etc.
- When parts of the program are likely to be detected as intervals between tunes:
  - Long low level sections (in classical music, etc.)
  - Momentary pauses in a speech at a conference, etc.
  - Continuing low level portions created by fading out, etc.
- In the case of tapes containing fade-outs, because the length of the blanks can differ depending on how fading out was performed, some tune intervals may be detected and others may not.

This problem can be corrected using the REC MUTE facility.

RTZ (Return To Zero) Function

To locate the position on tape corresponding to the linear counter reading of 00M00S, press the RTZ button.

The fast forward or rewind of the tape starts. The moment a counter reading of 00M00S is found, the deck stops.

Note: This function does not work when the deck is in the record, rec/pause or rec/mute mode.

To start playback from 00M00S

While the tape is running after the RTZ button is pressed, press the ► button. The deck temporarily stops at the 00M00S counter reading, then playback starts.

* If the ❚❚ button is pressed instead of the ► button, the deck enters the pause mode at the 00M00S counter reading. To start playback, press the ► or ❚❚ button.
* When the deck is in the recording mode, the RTZ button is disabled.

CD Synchro Dubbing

By combining the deck with a CD synchro compatible CD player (such as our CD-P4000) which has a CD/DECK SYNC terminal on the rear panel, dubbing (recording) interlocked with the CD player is possible.

Preparation

1. Connect the deck's CD/DECK SYNC terminal to the CD player's CD/DECK SYNC terminal using an optional cable (with miniplugs at both ends). (See page 4.)
2. Perform programming of "time edit", etc. of the CD player beforehand (refer to the instructions of the CD player).
3. Either press the CD DIRECT button or set the source to CD using the amplifier's source select buttons.
4. Set the recording level. See page 8.

1. Set the deck and the CD player to the stop mode.
2. Press the CD SYNC button on the deck. The CD player will automatically start in approx. 1 sec following the start of recording and dubbing is performed. (The CD SYNC indicator lights.) (See the top chart below.)

To temporarily stop during dubbing:

To temporarily stop CD synchro dubbing

(A) Press the STOP button of the deck. The CD player will return to the beginning of the tune and stop there. To restart, press the deck's CD SYNC button.

(B) Press the stop button of the CD player. The deck enters the rec/pause mode. To restart, press the CD player's play button.

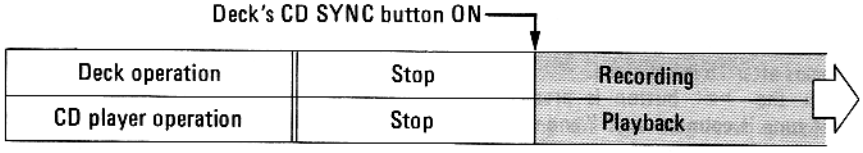
* When the CD player has entered the pause mode, it stands by after returning to the beginning of the tune just played.
* When recording is done up to the end of the tape, the CD player stands by after returning to the beginning of the tune just played.

(Note)

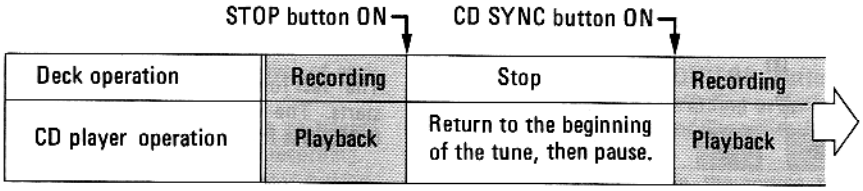
If the CD player is connected to the stereo amplifier by the optical cable alone, synchro dubbing is not performed. Be sure to connect the analog output using the pin plug cords.

CD synchro dubbing operation

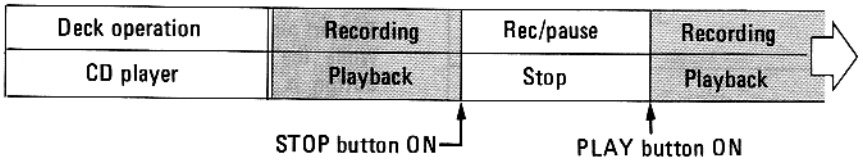
Start of CD synchro dubbing



(A: Operation at the deck)



(B: Operation at the CD player)



The shaded portion (▭) indicates the CD synchro dubbing mode.

Timer-Controlled Operations (Fig. 8)

Timer-Controlled Recording

1. Connect your deck and stereo system to a commercially available audio timer as shown in the diagram.
2. Set the audio timer (optional) to ON.
3. Set the power switches of all components to ON, then tune to the station broadcasting the program to be recorded.
4. Set the input select switch, the REC OUT selector, etc. of the amplifier to TUNER (refer to the instructions of the amplifier).
5. Load the cassette to be recorded, then set the recording level, DOLBY NR, BIAS, LEVEL controls as required.
6. Set the audio timer to the required start (power on) and stop (power off) times. When this setting is complete, the power to all components will be switched off.
7. Set the TIMER switch to REC.

When the preset start time is reached, power will be supplied and recording will start.

Timer-Controlled Playback

1. Connect the power cords of all components as shown in the diagram.
2. Set the audio timer (optional) to ON.
3. Set the stereo amplifier to TAPE.
4. Load a pre-recorded tape into the deck, then set the DOLBY NR as required.
5. Set the audio timer for the required start (power on) and stop (power off) times. After these settings, the power to all components will be switched off.
6. Set the TIMER switch of this deck to PLAY.

* When the preset start time is reached, playback will start in a few seconds.
* Be sure to set the TIMER switch to OFF upon completion of timer-controlled recording/playback.

Remote Controlled Operation (Figs. 4 and 5)

The provided RC-394 (V-7000) or RC-393 (V-5000) remote control unit allows the V-7000/V-5000 to be operated from a distance. The control buttons on the remote control unit function in almost the same way as those on the front panel of the V-7000/V-5000, but they have slightly different names, etc.

Precautions on Remote Control Operation (Fig. 4)

1. Battery Replacement

1. Remove the lid.
2. Insert 2 "AA" type dry batteries. Be sure that the batteries are inserted

with their negative and positive terminals positioned correctly.

3. Close the lid until it clicks.

How often should the batteries be changed?
The batteries will normally last about six months. However if you notice that the distance between the remote control unit and the V-7000/V-5000 required for operation becomes shorter, the batteries should be changed. Replace the batteries with two new ones.

Precautions Regarding Batteries

- Be sure to insert the batteries with the positive (+) and negative (–) terminals positioned correctly.
- Never use old and new batteries together.
- Replacement batteries should be of the same type. Never use batteries of different types together.
- Rechargeable and non-rechargeable batteries can be used. Refer to their precaution labels.
- Remove the batteries from the remote control unit when it will not be used for a long period of time.
- When the batteries are weak, replace them as soon as possible.
- Do not heat or disassemble batteries and do not dispose of them by throwing them into a fire.

2. Remote Control Unit RC-394 or RC-393
When operating using the remote control, point the front of the unit at the remote sensor of the V-7000/V-5000. The remote control unit can be used within the range shown in Fig. 5.

Notes:

- Even if the remote control unit is operated within the effective range, remote control operation may be impossible if there is any obstruction between the V-7000/V-5000 and the remote control unit.
- If the deck is operated in the vicinity of other appliances generating infrared rays, or if other remote control devices using infrared rays are used near the V-7000/V-5000, the deck may operate incorrectly. Conversely, if the V-7000/V-5000's remote control unit is operated in the vicinity of other appliances which use an infrared remote control device, the other appliance may operate incorrectly.
- When the unit will not be used for a long period of time (more than one month), remove the batteries to prevent them from leaking. If they do leak, wipe off the liquid inside the battery compartment and replace the batteries with new ones.
- Do not place books or other objects on the remote control unit as they could press the buttons and discharge the batteries.

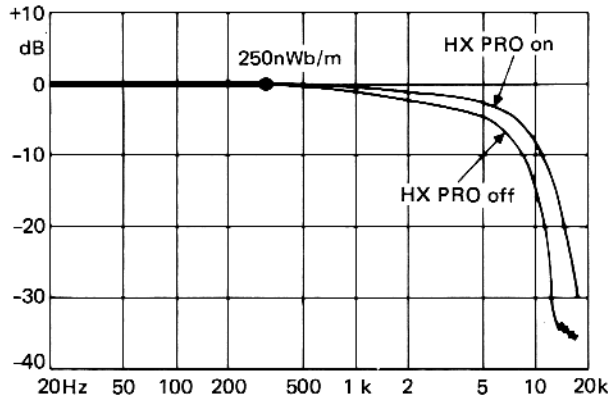
Dolby HX Pro is an "active bias" technique that can improve the quality of audio tape recordings. High-level high frequencies can be recorded more accurately, without sacrificing signal-to-noise ratio, while such side effects of tape saturation as distortion are reduced.

What Is Bias?
Bias is a very high-frequency signal generated within a tape deck and recorded on the tape simultaneously with the program material. This inaudible signal allows a low noise, low distortion recording and flat frequency response. Different magnetic tape formulations require different amounts of bias for optimum performance. If the bias level is too high, high-frequency Maximum Output Level (MOL) decreases.

The Problem of Self-Bias
Unfortunately, bias level is often influenced by the signal being recorded. The high frequencies contained in some music act as bias. This unpredictable source of bias is added to the existing bias, resulting in a loss of high-frequency response. As the high-frequency content of the signal increases, the ability of the recorder to record high frequencies (MOL) decreases. This phenomenon is called self-biasing.

How Dolby HX Pro Solution
The Dolby HX Pro monitors the high-frequency content of the program material and adjusts the recorder bias oscillator to maintain a constant total bias level. The result is improved high-frequency response and lower distortion. Depending on the type of tape, the improvement in headroom can be 6 dB or more.

The Benefits
With Dolby HX Pro, it is easier to make more accurate recordings of the kind of music which contains high-level high frequencies. The improvement is similar to that of high-performance tape over conventional tape, so regardless of the type of tape used, the results will sound better.
Most important of all, Dolby HX Pro requires no decoding process. Once the tape is recorded with it, the improvements will be realized when playing the tape back on any machine.



Example of improved frequency response using Dolby HX Pro function

Maintenance (Fig. 7)

The heads and tape path should be cleaned and demagnetized periodically.

Cleaning the Tape Path

- Apply head cleaning fluid* to special cotton swabs or a soft cloth, and lightly rub the heads, capstans and all metal parts in the tape path.
- Also clean the pinch rollers using rubber cleaning fluid*

* Both are available as TEAC HC-1 and RC-1 in the U.S.A. or in the TEAC TZ-261 Tape Recorder Cleaning Kit in other areas.

Demagnetizing Heads

Be sure that the power is off, then demagnetize the heads using a TEAC E-3 demagnetizer or equivalent. For details of its use, read its instructions.

Troubleshooting

Basic troubleshooting of a cassette tape deck is similar to troubleshooting any other electrical or electronic equipment. Always check the most obvious possible causes first. To give you a few ideas of what to look for, check the following:

- No power: Is the power cord connected?
- Tape begins running when power is turned on. Is the TIMER function switched on?
- No audio output. Have all connections been done correctly?
- Degraded sound quality: Are the heads dirty or magnetized? Are you using good quality tape? Is the NR selector in the correct position?
- Unable to select the record mode: Are the record protection tabs of the tape in place?

Specifications

Track System: 4-Track, 2-Channel Stereo
Heads: 3: 1 Erase, 1 Record and 1 Playback (combination)
Type of Tape: Cassette tape C-60 and C-90 (Philips type)
Tape Speed: 4.8 cm/sec. (1-7/8 ips)
Motors: 4
V-7000
1 brushless quartz locked PLL servo DC motor (for capstan drive)
1 DC motor (for reel drive)
1 DC motor (for mechanism drive)
1 DC motor (for power loading)
V-5000
1 DC servo motor (for capstan drive)
1 DC motor (for reel drive)
1 DC motor (for mechanism drive)
1 DC motor (for power loading)
Wow and Flutter (WRMS)
0.022 % (V-7000), 0.027 % (V-5000)
Frequency Response (Overall): -20 dB
15 – 21,000 Hz ±3 dB Metal Tape
15 – 20,000 Hz ±3 dB CrO_2 Tape
15 – 18,000 Hz ±3 dB Normal Tape
Signal-to-Noise Ratio (Overall)
60 dB (NR OFF 3 % THD Level, Weighted)
70 dB (Dolby B In, over 5 kHz),
80 dB (Dolby C In, over 1 kHz)
Fast Winding Time: Approximately 85 seconds for C-60
Inputs: Line: 60 mV, 50k ohms
CD Direct: 110 mV, 50k ohms
Outputs: Line: 0.44 V for load impedance of 50k ohms or more
Headphones: 2 mW (max.) 8 ohms
Power Requirements: 100/120/220/240 V AC, 50/60 Hz (General export models)
120 V AC, 60 Hz (U.S.A./Canada)
220 V AC, 50 Hz (Europe)
240 V AC, 50 Hz (U.K./Australia)
Power Consumption: 20 W (V-7000), 18 W (V-5000)
Dimensions (W x H x D)
471 x 149 x 355 mm (including side panels) (V-7000)
(18-9/16" x 5-7/8" x 14")
435 x 149 x 355 mm (V-5000)
(17-1/8" x 5-7/8" x 14")
Weight: 9 kg (19.9 lbs.) (including side panels) (V-7000)
8 kg (17.7 lbs.) (V-5000)
Standard Accessories:
RC-394 (V-7000), RC-393 (V-5000), Batteries (SUM-3, "AA", "R6" type) x 2, Input-output connection cords, Side panels (mounted) V-7000 only.

- Specifications were determined using metal tape except where noted.
- Improvements may result in specifications or features changing without notice.
- Photos and illustrations may differ slightly from production models.